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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BEHULU, ALEMAYEHU

ART UNIT	PAPER NUMBER
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2682

DATE MAILED: 12/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,648

Applicant(s)

TSIEN ET AL.

Examiner

Alemayehu Behulu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-13 and 23-27 is/are rejected.
- 7) ☒ Claim(s) 5-9, 14-22 and 28-30 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6. 6) ☐ Other: .

DETAILED ACTION

Specification

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.¹¹

1. Claims 1-4, 10-13 and 23-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Shoemaker (U.S. Pub. No. 2002/0105925).

Referring to claim 1, a method comprising , monitoring a variable rate data communication channel to determine its signal to noise ratio (paragraph [0004], figures 6B, 6C, 7B and 7C), and adjusting the data transmission rate of the variable rate data transmission channel based on its signal to noise ratio (paragraphs [0035], [0038], [0042], [0044], [0045], and figures 6B, 7B and 8).

Referring to claims 2 and 11, the method of claim 1, adjusting the data transmission rate includes comparing the signal to noise ratio of the variable rate data communication channel to a plurality of signal to noise ratio range (paragraphs [0038], [0043], [0044], and figures 4 and 6C).

Referring to claims 3 and 12, the method of claim 2 wherein adjusting the data transmission rate further includes selecting the signal-to noise ratio range that encompasses the signal-to-noise

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ratio of the variable rate data communication channel (paragraphs, [0032], [0033], [0038]-[0045] and figures 4, 6B, 7B, and 6C).

Referring to claims 4 and 13, the method of claim 3 wherein each signal-to-noise ratio range is associated with a specific data transmission rate (figure 4), adjusting the data transmission rate further includes setting the data transmission rate of the variable rate data communication channel to the specific data transmission rates associated with the selected signal-to-noise ratio range (paragraphs [0004], [0042], [0045], and figures 6B, 7B, 6C, 7C and 8).

Referring to claim 10, data transmission rate control process (see figures 1-8) comprising: an SNR determination process for monitoring a variable-rate data communication channel to determine its signal-to-noise ratio (paragraphs [0004], [0039], [0041] and figures 1, 3, 4, 5A, 6A, 6C, 7A, 7C and 8); and a transmission rate adjustment process, responsive to said SNR determination process, for adjusting the data transmission rate of said variable rate data communication channel based on its signal-to-noise ratio (paragraphs [0004], [0035], [0038], [0042], [0044], [0045], and figures 5B, 6B, 7B and 8).

Referring to claim 23, a computer program product residing on a computer readable medium having instructions stored thereon which when executed by processor (paragraphs [0032], [0034], and [0042]), cause that processor to, monitor a variable-rate data communication channel to determine its signal to noise ratio (paragraph [0004], figures 6B, 6C, 7B and 7C), and adjust

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the data transmission rate of the variable rate data communication channel based on its signal to noise ration (paragraphs [0035], [0038], [0042], [0044], [0045], and figures 6B, 7B and 8).

Referring to claim 24, the computer program product of claim 23, that computer readable medium is a read-only memory (paragraphs [0032] and [0042], figures 5C, 6C, 7C and 8, number 857).

2. Claims 25 –27 are rejected under 35 U.S.C. 102(e) as being anticipated by Jalali (U.S. Pub No. 2003/0095506).

Referring to claim 25, a data communication rate control system comprising, first computing device including a first wireless communication system (figure 3, number 110a), a second computing device including a second wireless communication system (figure 3, number 150a), wherein first and second wireless communication systems form a variable rate data communication channel between first and second computing devices (figure 1A, numbers 110, 112, 150 and 166, figure 3, number 110a, 150, 330, 342, 370 and 378, figures 4 and 5 and paragraph [0028]), that each wireless communication system includes a SNR determination process for monitoring variable-rate data communication channel to determine its signal-to-noise ratio (paragraphs [0026], [0045]-[0098], and [0113], and figures 1A, 2, 3, 4 and 5 and claims 1, 8, 9, 13, 19, 20 and 31), and a transmission rate adjustment process, responsive to SNR determination process, for adjusting the data transmission rate of variable rate data communication channel based on its signal-to-noise ratio (figure 2, numbers 220, 222, 224,

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figure 3, numbers 340, 330 see the solid arrow line from 340 to 330 for the transmitter side, numbers 378 and 380 see the dashed arrow line from 378 to 370 for the receiver side, figure 4, number 418, figure 5, number 370, and paragraphs [0025]-[0028], [0075], [0097]-[0098], and claims 13, 17, 18, and 27).

Referring to claim 26, the data transmission rate control system of claim 25 that transmission rate adjustment process includes a SNR comparison process for comparing the signal-to-noise ration of variable rate data communication channel to a plurality of signal-to-noise ration ranges (figure 2, paragraphs [0010], [0039]-[0074], [0084], and [0125], and claims 1, 2, 7, 10, 13, and 14), and a range selection process for selecting a signal-to noise ration range that encompasses the signal-to-noise ratio of variable rate data communication channel (figure 2, number 218 and 220 and paragraphs [0020], [0071]-[0073], and claims 1, 8 and 13).

Referring to claim 27, the data transmission rate control system of claim 26 wherein each signal-to-noise-ratio range is associated with a specific data transmission rate (figure 2, number 220, 222, and 224 paragraphs [0010], [0036], [0039], [0043], [0074], and claims 1, 8, 13, 16, and 17), transmission rate adjustment process including a transmission rate selection process for setting the data transmission rate of variable rate data communication channel to the specific data transmission rate associated with the selected signal-to-noise ratio (figure 2, numbers 220, 222, 224, figure 3, numbers 340, 330 see the solid arrow line from 340 to 330 for the transmitter side, numbers 378 and 380 see the dashed arrow line from 378 to 370 for the receiver side, figure 4,

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number 418 and figure 5, number 370, figure 5, number 370, and paragraphs [0025]-[0028], [0075], [0097]-[0098] and claims 13, 17, 18, and 27).

Allowable Subject Matter

3. Claims 5-9, 14-22 and 28-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Referring to claims 5-8 and 14-22, the applied references fail to disclose or render, obvious the claimed limitations that determining a noise signal strength factor for the received side of variable communication data communication channel during a non-transmission period, as specified in the claim.

Referring to claims 9 and 28-30 the applied references fail to disclose or render, obvious the claimed limitations that iteratively adjusting the data transmission rate of the variable rate data communication channel if the signal to noise ratio of the channel can not be determined for a defined period of time as specified in the claim.

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Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Walton et al. Method and Apparatus for Processing Data for Transmission in a Multi-Channel Communication System Using Selective Channel Inversion.

Salonaho et al. Method for Load Control and Radio System

Marchetto et al. Digital Communications System Having an Automatically Selectable Transmission Rate

Richards et al. Method and Apparatus for Power Control in an Ultra Wideband Impulse Radio System

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alemayehu Behulu whose telephone number is 703-305-4828. The examiner can normally be reached on 8 AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-746-3501.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

AB


VIVIAN CHIN
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